US Army Medical Research and Materiel

Technology Available for Licensing

Pulse Oximeter Sensor Combined with a Combination Oropharyngeal Airway and Bite Block

Features and advantages:

- **Could simplify amount and type of medical devices stocked by a medical facility or emergency crew**
- **Could decrease cost of devices by combining three into one**
- **Will not cause uncomfortable stimulation deep in the throat, thus avoiding gagging, vomiting, and aspiration**

This invention provides a pulse oximeter sensor combined with an oropharyngeal airway and bite block. The pulse oximeter sensor elements are capable of monitoring the posterior pharynx, the soft palate, the hard palate, and the buccal surface. The sensor elements include a light source, which emits light at wave-lengths of about 660 nm and about 940 nm, and a light detector. The sensor elements are in communication with a spectrophotometer for analysis. The oropharyngeal airway portion has a thickened wall to house the pulse oximeter sensor elements and provide sufficient material to form grooves in the distal end. The grooves are utilized when the invention is turned on its side to act as a bite block with the grooves engaging the teeth of the patient. The device allows for intraoral application of pulse oximeter sensors to a patient while establishing a ventilatable airway for the patient and/or maintaining separation between the patient's upper and lower teeth.

Prior art devices have combined the oropharyngeal airway with the capability to perform transilluminance pulse oximetry through the posterior tongue or have placed oximeter sensors farther down the trachea than is [illegible]d by this invention. The invention and test data suggest that buccal and proximal posterior pharyngeal/palatal reflectance pulse oximetry provides a simple, accurate means of monitoring arterial oxygen [illegible]on in the severely burned patient where oximetric monitoring presents a challenge.

Patent Status

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